

874

**Notice of Allowability**

Application No.

09/447,501

Examiner

Charles E Anya

Applicant(s)

WANG ET AL.

Art Unit

2126

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's argument of 7/02/04.
2. ☒ The allowed claim(s) is/are 1,4-13,15,16,27-31,35,36,38-49 and 51-53: now renumbered as 1-35.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
MENG-AL T. AN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Albert Michalik (Reg. No. 37,395) on 10/21/04.

In the claims:

a. Claim 1;

- line 2, insert after "driver" – , wherein the request is a function call in a kernel component of an operating system --;
- line 3, insert after "monitored" – , wherein determining that the kernel mode driver is to be monitored includes checking a registry setting --;

b. Cancel claims 2 and 3;

c. Claim 4;

- line 2, insert before "driver" – kernel mode --;
- line 3, insert after "the" – kernel mode --;

Art Unit: 2126

d. Claim 5;

- line 2, insert before "driver" – kernel mode --;
- line 3, insert after "the" – kernel mode --;

e. Claim 6;

- line 2, insert before "driver" – kernel mode --;
- line 3, insert after "the" – kernel mode --;

f. Claim 7;

- line 2, insert after "the" – kernel mode --;
- line 3, insert after "the" – kernel mode --;

g. Claim 8;

- line 1, insert before "driver" – kernel mode --;

h. Claim 9;

- line 1, insert before "driver" – kernel mode --;

i. Claim 11;

- line 2, insert after "the" – kernel mode --;

j. Claim 12;

- line 2, insert after "the" – kernel mode --;
- line 3, insert after "the" – kernel mode --;
- line 3, insert after "at" – kernel mode --;

k. Claim 13;

- line 2, insert after "the" – kernel mode --;

Art Unit: 2126

- l. Cancel claim 14;
- m. Claim 15;
  - line 2, insert after "invalidating" – kernel mode –;
- n. Claim 16;
  - line 2, insert after "the" – kernel mode --;
- o. Cancel claims 17-26;
- p. Claim 27;
  - Replace claim 27 with the following:
  - A computer-readable medium having computer-executable instructions, comprising instructions for:
  - receiving a request from a kernel mode driver for allocation of memory space;
  - determining that the kernel mode driver is to be monitored, wherein determining that the kernel mode driver is to be monitored includes checking a registry setting;
  - determining a location of memory space to allocate;
  - re-vectoring the request to a kernel mode driver verifier;
  - in the kernel mode driver verifier, testing the kernel mode driver including marking the memory bounding the memory space to

detect improper access of the memory bounding the memory space;

- allocating the memory space;
- and monitoring the areas bounding the location for an access violation using the kernel mode driver verifier. --;

q. Claim 28;

- line 2, insert after "comprising," – instructions for --;

r. Claim 29;

- line 2, insert after "comprising," – instructions for, --;
- line 3, replace "the component" with – kernel mode driver --;

s. Claim 30;

- line 2, insert "comprising," – instructions for --;

t. Claim 31;

- line 2, insert before ":" – instructions for, --;
- line 4, insert after "," – determining that the kernel mode driver is to be monitored, wherein determining that the kernel mode driver is to be monitored includes checking a registry setting; --;
- line 6, insert before "driver" – kernel mode --;
- line 8, insert after "the" – kernel mode --;
- line 10, insert before "driver" – kernel mode --;

- u. Cancel claims 32-34;
  
- v. Claim 35;
  - line 1, insert after "monitoring" – kernel mode --;
  - line 3, insert before "drivers" – kernel mode --;
  - line 5, insert after "requesting" – kernel mode --;
  - line 5, insert before "," with -- , wherein the determining whether the requesting kernel mode drivers are to be monitored is based on a setting in a registry --;
  - line 6, insert after "a" – kernel mode --;
  - line 7, insert after "a" – kernel mode --;
  - line 8, insert after "the" – kernel mode --;
  - line 9, insert after "from the" – kernel mode --;
  - line 9, insert before "driver verifier" – kernel mode --;
  - line 10, insert after "the" – kernel mode --;
  
- w. Cancel claim 37;
  
- x. Claim 38;
  - line 1, replace "37" with – 35 --;
  
- y. Claim 39;
  - line 2, insert before "driver includes" – kernel mode --;

Art Unit: 2126

- line 2, insert after "the" – kernel mode --;
- z. Claim 40;
  - line 2, insert before "driver includes" – kernel mode --;
  - line 2, insert after "the" – kernel mode --;
- aa. Claim 41;
  - line 1, insert before "driver" – kernel mode --;
  - line 2, insert after "the" – kernel mode --;
- bb. Claim 42;
  - line 2, insert before "driver includes" – kernel mode --;
  - line 2, insert after "to the" – kernel mode --;
- cc. Claim 43;
  - line 2, insert before "driver" – kernel mode --;
  - line 3, insert after "the" – kernel mode --;
- dd. Claim 44;
  - line 2, insert after "the" – kernel mode --;
- ee. Claim 45;
  - line 2, insert after "the" – kernel mode --;
- ff. Claim 46;
  - line 2, insert after "the" – kernel mode --;
- gg. Claim 47;
  - line 2, insert after "the" – kernel mode --;
- hh. Claim 48;

Art Unit: 2126

- line 2, replace "system components" with -- a plurality of kernel mode drivers --;
- line 3, replace "a system component;" with -- one of the kernel mode drivers;
- determining that one of the kernel mode driver is to be monitored, wherein determining that the kernel mode driver is to be monitored includes checking a registry setting; --;
- line 4, insert after "services" -- by re-vectoring the request --;
- line 4, insert before "," -- to a kernel mode driver verifier --;

ii. Claim 49;

- line 1, replace "system component" with -- kernel mode driver --;

jj. Cancel claim 50;

kk. Claim 53;

- Replace claim 53 with the following:
- A computer-readable medium having computer-executable instructions, comprising instructions for verifying kernel mode drivers:
- selecting one or more tests for verifying functionality of one of the kernel mode drivers;



- determining that the kernel mode driver is to be monitored, wherein determining that the kernel mode driver is to be monitored includes checking a registry setting;
- modifying a request for system services by re-vectoring the request to include execution of the selected tests to a kernel mode driver verifier, wherein one of the tests includes restricting access to a resource, such that an attempted access to the resource causes an access violation;
- executing the modified request;
- and generating errors for any test failures. --;


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (703) 305-3411. The examiner can normally be reached on M-F (8:30-6:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-Ai can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles E Anya  
Examiner  
Art Unit 2126

cea.



MENG-AL T. AN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100